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DD/A 79-0112/10

DD/A REGISTRY
FILE: Commo

10 DEC 1979

MEMORANDUM FOR: Director of Communications

FROM: Don I. Wortman
Deputy Director for Administration

SUBJECT: Administration Directorate New Communications Support Requirements, FY 1982 - FY 1986 [redacted]

REFERENCE: Memo to AC/MS/DDA fm D/CO dtd 20 Sept 79, same subj (OC-M79-636)

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Introduction

1. This memorandum identifies Administration Directorate new communications support requirements for the period FY 1982 through FY 1986. The requirements shown below are either new or significantly changed from what is currently being provided. Unless otherwise noted, all existing services will remain unchanged through FY 1986. [redacted]

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2. In defining its new communications requirements, the Office of Data Processing (ODP) has identified needs that are Agency-wide in nature--communications support necessary to provide data processing support for Agency-wide ODP users. We have chosen to identify and rank each generalized ODP requirement and, as a subset thereto, as appropriate, each specific Administration Directorate requirement. Requirements are listed in priority order--first ranked being most important. Unless otherwise indicated, each requirement is valid through FY 1986 and assumes early FY 1982 implementation. [redacted]

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Requirements

1. Support for Expanded Headquarters Building Data Services (ODP)

The ODP bus communications requirements for FY 1982 through FY 1986 are included in the Wideband Bus Communications

MORI/CDF Pages 1 thru 8

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System design and development effort being conducted by the Consolidated SAFE Project Office/ODP. These requirements have been coordinated with the Office of Communications so they are not repeated here. Tab A is a confirming copy of the preliminary statement of requirements. Use of wideband bus technology for these and other requirements will probably be necessary in view of the terminal installation rate discussed below and the desired increase in transmission rate for some installations to 9600 bits per second, which will saturate the OC distribution grid during this planning period. [redacted]

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2. Installation of Dual, End-to-End Isolated Path, Trunk Carrier Circuits Between the Headquarters Building and Selected Outbuildings (ODP)

ODP has previously stated that the data communications required to service ODP customers must have .995 average reliability and .995 average availability per circuit with no more than one uncorrected error per week per circuit. This requirement remains valid and necessary for the provision of an ODP on-line service availability of .99. [redacted]

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The availability requirement above equates to a maximum outage of 3 minutes per day for a 10 hour service period. Because of the single thread trunk carrier configuration* in use at most CIA outbuildings today, any failure of the transmission medium, crypto, or MUX equipment can render all data service inoperative or degraded for an extended period of time.** [redacted]

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To provide required data service, two separate, isolated trunk carrier circuits should be available between the Headquarters Signal Center and each outbuilding Crypto Equipment Room. Each circuit should have its own MUX and crypto equipment. Two basic requirements for dual, isolated trunk circuits are:

a. Switching (or loading) from one trunk to a second trunk must be initiated and controlled from the Headquarters Building, requiring no intervention at the outbuilding; and

b. Capacity must be such that either trunk to an outbuilding can accommodate all data service to the outbuilding with no degradation in throughput. [redacted]

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*Trunk carrier as used here is defined as the transmission medium (microwave, landline, or a combination thereof) and the trunk-associated crypto and MUX equipment.
**An extended outage for data service is defined as a two-hour period or greater.

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-- Installation of new data terminals (non-SAFE);
-- Relocation of in-use data terminals;
-- Replacement of in-use data terminals;
-- Provision of new data communications lines; and
-- Upgrading the speed of existing data communications lines.

ODP has estimated the following Agency-wide requirements for the installation of new terminals and relocation of existing terminals:

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	FY-82	FY-83	FY-84	FY-85	FY-86
Installations					
Relocations					

Tab B provides additional details concerning these estimates.

Note that included in the new installations are CAMS requirements for 15 CRT terminals and 3 medium high speed printers per year and the addition of 10 graphics terminals to the CAMS configuration in FY 1983. The terminal projection presented for FY 1982 includes CAMS FY 1981 requirements which were programmed by OC at an enhanced level.

For purposes of comparison, the following terminal support was provided by OC in FY 1979:

Installations		
low speed (asynchronous)	144	
high speed (bisynchronous)	16	160
Relocations		117

The installation estimates shown above do not include two additional categories of requirements:

-- Replacement of existing Delta Data 5260 terminals with the new ODP terminals is scheduled to start in FY 1981 and to be completed in FY 1984. Replacement will be scheduled at the rate of approximately 200 terminals per year, subject to the availability of funds. Replacement terminals will not require any change in communications support.

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5. Secure Data Transfer Capability Between Headquarters

[redacted]

7. Data Line and Patch Panel Installations (ODP)

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The rate of Agency-wide new terminal installations raises a requirement for more communication controller capacity in the ODP computer centers. In turn, OC will be called upon for the installation of additional data lines between the Central Distribution Frame (CDF) room and the computer centers, and for the installation of patch panels. Such new capacity will be called for as follows:

FY 1982: Install 336 asynchronous and 48 bisynchronous data lines between CDF and the GC-47 Special Center. Install and connect patch panel in GC-47 with same capacity (DDO System).

FY 1982: Install 448 asynchronous and 48 bisynchronous data lines between CDF and the GC-03 Ruffing Center. Install and connect patch panel in GC-03 with same capacity.

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FY 1986: Install 336 asynchronous and 48 bisynchronous data lines between CDF and the GC-47 Special Center. Install and connect patch panel in GC-47 with same capacity (DDO System).

FY 1986: Install 388 asynchronous and 48 bisynchronous data lines between CDF and the GC-03 Ruffing Center. Install and connect patch panel with same capacity. [redacted] 25X1

The installation of patch panels and RFI racks, etc., to support the installation of five new ODP front-end processors was programmed by OC at an enhanced level for FY 1981. The front-end processors will be acquired by ODP in FY 1980; this requirement must be satisfied in FY 1982 to allow continued customer access to ODP services. [redacted] 25X1

8. Minicomputer and Word Processing Networks (ODP)

Agency-wide data terminal projections include a substantial number of word processing installations. The majority of these word processors will be standalone installations. In the FY 1982 to FY 1986 period, we can forecast requirements to connect a percentage of installed word processors or minicomputers to communicate with like devices in the same building, in other buildings, or with the central computers in Headquarters. A conservative planning rate for the installation of minicomputer and word processor systems that will require network communications support is four per year for the FY 1982 to FY 1986 period. We see the need for this service coming but cannot as yet provide specific applications. [redacted] 25X1

Network throughput will be required at 9600 bps with a .995 reliability and one uncorrected error per week per circuit. [redacted] 25X1

25X1 9. Black Telephone and Secure Voice [redacted] (ODP)

25X1 ODP has a requirement that the level of services between the [redacted] and Headquarters Buildings be increased to provide users access to the desired Headquarters exchange with a maximum of two attempts during a normal working day for both black and secure lines. Further, ODP requests that the hours of secure voice support available in the [redacted] be extended to 0730-1800 on all workdays. [redacted] 25X1

These enhancements to the commercial and secure voice systems are necessitated by the increases in personnel assigned to [redacted] and the increased emphasis on security. This 25X1 requirement should be programmed for FY 1982 if not satisfied in FY 1980 or FY 1981. [redacted]

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10. High Speed Line Requirements (ODP)

New equipment coming into the ODP systems as standards and the expansion of existing ODP services drive a requirement for higher speed data lines, both within and external to the Headquarters Building. Equipment or services which make up the high speed line requirements are:

a. New Agency standard CRT terminal, with burst usages in the 2,000 - 20,000 character range. For terminals with floppy disks, burst usage could be in the 100,000 character range.

b. Word Processing Stations. While the number of "connects" between word processing stations and ODP host computers is expected to be relatively low, large volumes of data would be transmitted during each connect session.

c. The increasing user requirement for ODP to provide registry type services (volume hardcopy output) at dispersed locations.

d. An increase in the number of minicomputers being interfaced to the ODP main systems.

OC should be prepared to offer data lines at the following standard speeds:

300 Bits per Second (BPS)	4,800 Bits per Second (BPS)
600 Bits per Second (BPS)	9,600 Bits per Second (BPS)
1,200 Bits per Second (BPS)	19,200 Bits per Second (BPS)
2,400 Bits per Second (BPS)	

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Conclusion

Questions pertaining to any of the above should be addressed to [redacted] DDA Management Staff, on extension [redacted]

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/s/ C. D. May
for Don I. Wortman

Attachments:
Tab A - SAFE MFR and WBCS Architecture ltr to TRW
Tab B - Supplemental Terminal Support Data
Tab C - OTR Communications Rqmnts FY 1982 - FY 1986

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DDA/MS: [redacted] il:ext [redacted] (7 Dec 79)

Distribution:
Orig - D/CO w/atts
1 - DDA Subj w/atts
1 - DDA Chrono w/o atts
1 - DIW Chrono w/o atts
1 - DDA/MS Subj w/atts
1 - DDA/MS Chrono w/o atts
1 - Remaining OD's + C/ISS w/o atts

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